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EXAMINER

HARPER, KEVIN C

ART UNIT PAPER NUMBER

2666

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/943,004

Applicant(s)

DE MARIA ET AL.

Examiner

Kevin C. Harper

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

Applicant's arguments filed October 17, 2005 have been fully considered but they are not persuasive.

1. Applicant argued that Peris does not disclose a database of queues corresponding to a plurality of destinations, where the queues store packets according to service classes. However, Peris discloses a database of queues (figs. 7A and 9A) for packets that include service classes (col. 13, lines 50-53 and 59-63), where the queues correspond to several final destinations having intermediate destinations (fig. 3A, items 320 and 325; claim 6 - "output of the packet switching system"; col. 11, lines 6-8; note: multiple intermediate switches are contained within the packet switching system - col. 1, lines 39-40 and col. 8, lines 16-18 and 40-41).

2. Applicant argued that Peris does not disclose that the state of a queue is rendered active or inactive, where the queue is associated with packets intended to be forwarded to a final destination. However, Peris discloses that the state of a queue is rendered active or inactive (fig. 3A; col. 13, lines 16-27; note: data traffic is stopped when the queue is inactive and started when the queue is active; fig. 7A).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5,26-42 are rejected under 35 U.S.C. 102(e)⁽²⁾ as being anticipated by Peris et al (US 6,728,211).

Regarding claims 1 & 38, Fig. 7 B anticipates *"a method of regulating packet flow to a downstream entity (SE 2) capable of forwarding packets to a plurality of intermediate destination (SE 1 & SE 3)"*, the method comprising:

Maintaining a database of queues is anticipated by *"incoming packet queues-295"* disclosed in Fig 2C or column 8, lines 30-32, each queue in the database being associated with packets intended to be forwarded to a corresponding one of a plurality of final destinations via a corresponding one of the intermediate destinations is anticipated by *"packet queue-295 forwards the packet to the corresponding final destination (SE 2) via corresponding intermediate destinations (SE 1 & SE 3)"* disclosed in column 8, lines 32-35 or Fig. 7 B, each queue in the database being further associated with a state that is either active or inactive is anticipated by *"receiving information to either stop (inactive) or increase (active) sending traffic to a particular destination"* disclosed in column 13, lines 16-28;

Upon receipt of a message from the downstream entity indicating a reduced ability of a particular one of the intermediate destination to accept packets intended to be forwarded to a particular one of the final destinations is anticipated by *"upon receiving a flow control information indicating congestion (reduced ability) in switching fabric"* disclosed in column 13, lines 16-20; rendering inactive the state of the queue

associated with packets intended to be forwarded to the particular final destination via the particular intermediate destination is anticipated by *"line card sending traffic through a congested portion should slow down or stop (inactive) sending traffic to congested destination"* disclosed in column 13, lines 20-24; and

Upon receipt of message from the downstream entity indicating an increased ability of a particular one of the intermediate destination to accept packets intended to be forwarded to a particular one of the final destinations is anticipated by *"upon receiving a flow control information indicating no-congestion (increased ability) in switching fabric"* disclosed in column 13, lines 16-20; rendering active the state of the queue associated with packets intended to be forwarded to the particular final destination via the particular intermediate destination is anticipated by *"the line card could resume or increase the rate at which it is sending traffic to a particular destination or group of destinations"* disclosed in column 13, lines 24-27.

Regarding claims 2 & 39, *"storage buffer-295"* disclosed in Fig. 2C or column 8, lines 30-32 anticipates providing storage for the packet associated with each queue is anticipated by.

Regarding claim 3 & 40, for each intermediate destination, scheduling packets for transmission to said intermediate destination from amongst the packet belonging to those queues for which the state is active and that are associated with packets intended to be forwarded to any final destination via an said intermediate destination *"if the flow control indicates no-congestion in the switching fabric the line card continues to send*

traffic to a particular destination or group of destinations" disclosed in column 16, lines 29-31.

Regarding claim 4, determining whether the downstream entity has an ability to receive at least one packet is anticipated by *"determining if the destination is congested"* as disclosed in Fig 9C, block 964 or column 17, lines 52-56;

Upon determining that the downstream entity has the ability to receive at least one packet, selecting at least one packet that has been scheduled for transmission to one of the intermediate destinations and transmitting at least one of the selected packet to the downstream entity is anticipated by *"sending packet from the queue to switching fabric"* as disclosed in Fig 9C, block 966 or column 17, lines 54-56.

Regarding claim 5, Fig. 8 C anticipates *"selecting at least one packet that has been scheduled for transmission to one of the intermediate destination"*, includes:

Selecting an intermediate destination *"determining the destination of packet"* disclosed in fig 8 C, block 874; and

Fig 8 C, block 876 anticipates *"selecting at least one packet that has been scheduled for transmission to the selected intermediate destination"*.

Regarding claim 26, said method being implemented in at least one of the intermediate destinations is anticipated by *"flow control method implemented in switching elements SE1 and SE3"* as disclosed in column 6, lines 52-56.

Regarding claim 27, wherein the downstream entity is a switch fabric is anticipated by *"switching elements SE1, SE2 and SE3"* as disclosed in column 6, lines 52-56.

Regarding claim 28, wherein the intermediate destination include switch fabric nodes of a intermediate switching stage of a multi-stage packet router is anticipated by "by switching fabric element SE-2 (145)" disclosed Fig 1B

Regarding claim 29, said method being implemented in at least one of the intermediate destinations is anticipated by *"flow control method is implemented SE1 and SE3"* as disclosed in column 6, lines 52-56

Regarding claim 30, a computer readable storage medium (*storage device 223*) containing program instructions for causing execution in a computing device of method as defined is anticipated by *"storage device 223 stores computer executable instruction"* disclosed in column 7, lines 18-24.

Regarding claim 31, a congestion manager for regulating packet flow to a downstream entity capable of forwarding packets to a plurality of intermediate destinations is anticipated by *"input and output interface -290-(congestion manager) manages the flow control information"* disclosed in column 8, lines 38-44:

Means for maintaining a database of queues is anticipated by *"control logic (Means for maintaining a database) that regulates the placing of the incoming data into database of queues"* disclosed in Fig 2C or column 16, lines 25-28, each queue in the database being associated with packets intended to be forwarded to a corresponding one of a plurality of final destinations via a corresponding one of the intermediate destinations is anticipated by *"packet queue-295 forwards the packet to the corresponding final destination (SE 2) via corresponding intermediate destinations (SE 1 & SE 3)"* disclosed in column 8, lines 32-35 or Fig. 7 B, each queue in the database

being further associated with a state that is either active (*increasing sending traffic*) or inactive (*stop sending traffic*) is anticipated by "*receiving information to either stop or increase sending traffic to a particular destination*" disclosed in column 13, lines 16-28

Means for rendering inactive upon receipt of a message from the downstream entity (SE 2) indicating a reduced ability of a particular one of the intermediate destination (SE 1 & SE 3) to accept packets intended to be forwarded to a particular one of the final destinations (one of the SE 2) is anticipated by "*I/O interface-750 (Means for rendering inactive) sending a flow control message to line indicating congested destination (reduced ability)*" disclosed in column 13, lines 16-24 and column 14- lines 53-column 15-line 19 or Fig 7D; the state of the queue associated with packets intended to be forwarded to the particular final destination via the particular intermediate destination is anticipated by "*hold or throttle back data transmission for the queue having a congested destination*" disclosed in column 16, lines 18-28; and

Means for rendering active, upon receipt of message from the downstream entity (SE 2) indicating an increased ability of a particular one of the intermediate destination (SE 1 & SE 3) to accept packets intended to be forwarded to a particular one of the final destinations (one of the SE 2) is anticipated by "*I/O interface-750 (Means for rendering active) sending a flow control message to line indicating not-congested destination (increased ability)*" disclosed in column 13, lines 16-24 and column 14- lines 53-column 15-line 19 or Fig 7D the state of the queue associated with packets intended to be forwarded to the particular final destination via the particular intermediate destination is

anticipated by *"resume or begin sending transmission data for the queue with a not-congested destination"* disclosed in column 13, lines 40-45 and column 16, lines 18-28.

Regarding claim 32, a computer readable storage medium (*memory 222*) containing a program element for execution by a computing device to implement a congestion manager for regulating packet flow to a downstream entity capable of forwarding packets to a plurality of intermediate destinations is anticipated by *"embodiment 220 (congestion manager) regulates flow control information"* disclosed in column 7, lines 20-23, the program element including:

Program code means for maintaining a database of queues is anticipated by *"processor using set of instruction (Program code means) to maintain data base of queue according to flow control information"* disclosed in column 7, lines 18-23, each queue in the database being associated with packets intended to be forwarded to a corresponding one of a plurality of final destinations via a corresponding one of the intermediate destinations is anticipated by *"packet queue-295 forwards the packet to the corresponding final destination (SE 2) via corresponding intermediate destinations (SE 1 & SE 3)"* disclosed in column 8, lines 32-35 or Fig. 7 B, each queue in the database being further associated with a state that is either active (*increasing sending traffic*) or inactive (*stop sending traffic*) is anticipated by *"receiving information to either stop or increase sending traffic to a particular destination"* disclosed in column 13, lines 16-28

Program code means for rendering inactive upon receipt of a message from the downstream entity (SE 2) indicating a reduced ability of a particular one of the intermediate destination (*SE 1 & SE 3*) to accept packets intended to be forwarded to a

particular one of the final destinations (one of the SE 2) is anticipated by *"I/O interface-750 (Program code Means for rendering inactive) sending a flow control message to line indicating congested destination (reduced ability)"* disclosed in column 13, lines 16-24 and column 14- lines 53-column 15-line 19 or Fig 7D; the state of the queue associated with packets intended to be forwarded to the particular final destination via the particular intermediate destination is anticipated by *"hold or throttle back data transmission for the queue having a congested destination"* disclosed in column 16, lines 18-28; and

Program code means for rendering active, upon receipt of message from the downstream entity (SE 2) indicating an increased ability of a particular one of the intermediate destination (SE 1 & SE 3) to accept packets intended to be forwarded to a particular one of the final destinations (one of the SE 2) is anticipated by *"Program code I/O interface-750 (Means for rendering active) sending a flow control message to line indicating not-congested destination (increased ability)"* disclosed in column 13, lines 16-24 and column 14- lines 53-column 15-line 19 or Fig 7D the state of the queue associated with packets intended to be forwarded to the particular final destination via the particular intermediate destination is anticipated by *"resume or begin sending transmission data for the queue with a not-congested destination"* disclosed in column 13, lines 40-45 and column 16, lines 18-28.

Regarding claim 33, a congestion manager capable of forwarding packets to a plurality of intermediate destinations is anticipated by s anticipated by *"input and output*

interface –290-(congestion manager) manages the flow control information” disclosed in column 8, lines 38-44, comprising:

A queue processor maintaining a information on plurality of queue is anticipated by *“control logic (queue processor) that regulates the placing of the incoming data into plurality of queue”* disclosed in Fig 2C or column 16, lines 25-28, each queue in the database being associated with packets intended to be forwarded to a corresponding one of a plurality of final destinations via a corresponding one of the intermediate destinations is anticipated by *“forwarding the packet to the corresponding final destination (SE 2) via corresponding intermediate destinations (SE 1 & SE 3)”* disclosed in Fig. 7 B

A controller in communication with the queue processor is anticipated by *“line card (controller) in conjunction with the control logic (queue processor) will control the placing of data into queues”* as column 16, lines 21-28;

Said controller (*line card*) being adapted to maintain information on a state of each queue, the sate of each queue being either active or inactive is anticipated by *“line card checks to see if the destination is congested (in active) or not-congested (active)”*disclosed in column 16, lines 13-25;

Said controller (*line card*) being further adapted to respond to a message from a particular intermediate destination (*SE 1 & SE 3*) indicative of reduced ability of particular destination (*SE 2*) to accept packets intended to be forwarded to a particular one of the final destinations (*SE 2*) is anticipated by *“upon receiving a flow control information indicating congestion in switching fabric”* disclosed in column 13, lines 16-

20; by rendering inactive the state of the queue associated with packets intended to be forwarded to a particular one of the final destinations via the particular intermediate destination is anticipated by *"line card should slow down or stop (rendering inactive) sending traffic to congested destination"* disclosed in column 13, lines 20-24; and;

Said controller being further adapted to respond to a message from a particular intermediate destination (SE 1 & SE 3) indicative of increased ability of particular destination to accept packets intended to be forwarded to a particular one of the final destinations (SE 2) is anticipated by *"upon receiving a flow control information indicating no-congestion in switching fabric"* disclosed in column 13, lines 16-20; by rendering active the state of the queue associated with packets intended to be forwarded to a particular one of the final destinations via the particular intermediate destination is anticipated by *"the line card could resume or increase (rendering active) the rate at which it is sending traffic to a particular destination or group of destinations"* disclosed in column 13, lines 24-27.

Regarding claim 34, a memory for providing storage of packets associated with each queues is anticipated by *"storing the packets in input buffer 295"* disclosed in column 8, lines 30-33.

Regarding claim 35, the queue processor being further adapted to schedule packets for transmission to each particular one of the intermediate destinations from amongst the packets belonging to those queues for which the state is active and that are associated with packets intended to be forwarded to any final destination via the particular intermediate destination is anticipated by *"transmitting the packets to the*

appropriate destinations if the destination is not congested" disclosed in column 17, lines 5-12;

Regarding claim 36, Fig. 9C anticipates *"the queue processor being further adapted to determine whether the down stream entity has an ability to receive at least one packet and upon determining that the down stream entity has an ability to receive at least one packet, to select at least one packet that has been scheduled for transmission to one of the intermediate destinations and to cause at least one of the selected packet to be extracted from the memory and transmitted to the down stream entity"* also disclosed in column 17, lines 45-67.

Regarding claim 37, a classifier connected to the queue processor and to the controller for determining the final destination to which each packet in a received stream of packet is to be forwarded is anticipated by *"line card places the packets in respective queue according to the final destination of the packet"* disclosed in block 934 in Fig. 9B or column 17, lines 39-44.

Regarding claim 41, maintaining a queue of active queues for each service class, wherein each queue in the queue of queues for a particular service class has a state that is active is anticipated by *"database for storing flow control information relative to class of service"* disclosed column 13, lines 50-55; and

For each intermediate destination, scheduling packets for transmission to said intermediate destination from amongst the packets in the queues contained in each queue of active queue is anticipated by *"sending the packet to non -congested destination ports"* disclosed in column 13, lines 24-28.

Regarding claim 42, a computer readable storage medium (*storage device 223*) containing program instructions for causing execution in a computing device of method as defined is anticipated by "*storage device 223 stores computer executable instruction*" disclosed in column 7, lines 18-24.

Also regarding claims 38-40, since they are substantial duplicate of claims 1-3 hence are rejected on similar ground as of claims 1-3.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peris et al (US 6,728,211) in further view of Brown (US 6,856,595).

Regarding claim 6, Peris et al. (US 6,728,211) teaches all the limitations of claim 6 (see the rejection for claim 1 above) Peris et al (US 6,728,211) also teaches maintaining information on memory utilization for each of plurality of flows, each flow associated with corresponding one of the final destinations is anticipated by "*a line card will maintain a queue for each destination to which it is sending data*" disclosed in column 4, lines 44-46; generating a message indicative of reduced ability of the congestion manager to accept packets intended to be forwarded to the final destination associated with the particular flow is anticipated by "*line card sending traffic through a congested portion should slow down or stop sending traffic to congested destination*"

disclosed in column 13, lines 20-24; generating a message indicative of increased ability of the congestion manager to accept packets intended to be forwarded to the final destination associated with the particular flow is anticipated by *"the line card could resume or increase the rate at which it is sending traffic to a particular destination or group of destinations"* disclosed in column 13, lines 24-27. Peris et al (US 6,728,211) does not expressly disclose comparison between the memory utilization and first threshold and second threshold. Brown (US 6,856,595) discloses the comparison between the memory utilization (port queue count) and threshold to set the output port to congested or not congested (see Fig 5 or column 4, lines 30-44 Brown (US 6,856,595)). At the time the invention was made it would have been obvious to one in ordinary skill in art to add comparison between the memory utilization (port queue count) and threshold of Brown (US 6,856,595) to the flow control means or method of Peris et al (US 6,728,211). One in ordinary skill in art would have been motivated to do this reduce the number of data packet received at the congested port (see column 1, lines 25-30 of Brown (US 6,856,595)).

Regarding claim 7, Peris et al (US 6,728,211) in further view of Brown (US 6,856,595) teaches all the limitation of claim 7 (see the 103 rejection for claim 6 above). Brown also teaches wherein the first and second thresholds are predetermined *"the congestion threshold count may be programmed by the policy operator or a network administrator"* disclosed in (column 4, lines 27-30 of Brown (US 6,856,595)). At the time the invention was made it would have been obvious to one in ordinary skill in art to add predetermined first and second threshold of Brown (US 6,856,595) to the flow control

means or method of Peris et al (US 6,728,211). One in ordinary skill in art would have been motivated to do this reduce the number of data packet received at the congested port (see column 1, lines 25-30 of Brown (US 6,856,595))

Regarding claim 8, Peris et al (US 6,728,211) in further view of Brown (US 6,856,595) teaches all the limitation of claim 7 (see the 103 rejection for claim 6 above). Brown (US 6,856,595) also teaches adjusting at least one of the first second threshold as a function of the total memory utilization for said plurality of said flows *"the congestion threshold count may be programmed by the policy operator or a network administrator"* disclosed in (column 4, lines 27-30 of Brown (US 6,856,595)). At the time the invention was made it would have been obvious to one in ordinary skill in art to add predetermined first and second threshold of Brown (US 6,856,595) to the flow control means or method of Peris et al (US 6,728,211). One in ordinary skill in art would have been motivated to do this reduce the number of data packet received at the congested port (see column 1, lines 25-30 of Brown (US 6,856,595)).

Regarding claim 9, Peris et al (US 6,728,211) further teaches receiving the packets from a plurality of upstream entities *"receiving control message from control messages"* disclosed in Fig 3C-389; and sending the generated messages to the plurality of upstream entities *"sending packets"* disclosed in Fig 3C-388.

Regarding claim 10, Peris et al (US 6,728,211) further teaches wherein sending one of the generated messages to the plurality of upstream entities includes broadcasting said one of the generated messages to plurality of upstream entities *"broadcast packet is sent"* disclosed in column 13, line 5-10.

Regarding claim 11, Peris et al (US 6,728,211) further teaches maintaining second database of those upstream entities that have recently sent packets intended to be forwarded to the final destination associated with the particular flow *"incoming packet queue-295"* disclosed in Fig 2c, or column 8, lines 30-33;

Wherein sending the generated messages to the plurality of upstream entities includes multicasting said one of the generated messages to the upstream entities in the second database is anticipated by *"at appropriate time the packets are sent to the switching elements SE-1 and SE-3"* disclosed in column 8, lines 30-35.

Regarding claim 12, Peris et al (US 6,728,211) further teaches maintaining a second database indicative of the number of packets belonging to a given flow that have been received from each upstream entity since the transmission to that upstream entity of a message indicative of a reduced ability of the congestion manager to accept packets intended to be forwarded to the final destination associated with the given flow is anticipated by "interaction between the flow control logic which stores the flow control information and the packet buffer 295" as disclosed in column 8, lines 40-44 or Fig 2C.

Regarding claim 13, Peris et al (US 6,728,211) in further view of Brown (US 6,856,595) teaches all the limitation of claim 13 (see the rejection for claim 12 above). Brown (US 6,856,595) also teaches if the number of packets in the database exceeds a first threshold, for a particular flow and for a particular upstream entity, generating another message indicative of the reduced ability of the congestion manager to accept packets intended to be forwarded to the final destination associated with the particular flow and sending said other message to the particular upstream entity *"if the port queue*

count is greater than the threshold set the output port to congested i.e reduce the ability of ingress port to forward the data packets" see Fig 5 or column 4, lines 30-44 and column 01, lines 25-30. At the time the invention was made it would have been obvious to one in ordinary skill in art to add comparison between the first threshold and number of data packets received of Brown (US 6,856,595) to the flow control means or method of Peris et al (US 6,728,211). One in ordinary skill in art would have been motivated to do this reduce the number of data packet received at the congested port (see column 1, lines 25-30 of Brown (US 6,856,595)).

Regarding claim 14, Peris et al (US 6,728,211) in further view of Brown (US 6,856,595) teaches all the limitation of claim 13 (see the rejection for claim 12 above). Brown (US 6,856,595) also teaches if the number of packets in the data base exceeds a second threshold greater than the first threshold, for a particular flow and for a particular upstream entity, generating a alarm message and sending an alarm message to an external entity "if the port queue count exceeds the threshold (if the number of packets in the data base exceeds a second threshold greater than the first threshold) the output port is set to congested (generating alarm)" disclosed in Fig. 5 of Brown (US 6,856,595). At the time the invention was made it would have been obvious to one in ordinary skill in art to add comparison between the first threshold and number of data packets received of Brown (US 6,856,595) to the flow control means or method of Peris et al (US 6,728,211). One in ordinary skill in art would have been motivated to do this reduce the number of data packet received at the congested port (see column 1, lines 25-30 of Brown (US 6,856,595)).

Regarding claim **15**, Peris et al (US 6,728,211) further teaches maintaining an acknowledgement database "*data structure-700*" disclosed in Fig 7A or column 13, lines 50-63; includes an entry for each combination of upstream source and a final destination "*flow control information*" column 13, lines 50-63; and an indication of whether the upstream source in each combination of upstream source and final destination has acknowledgement receipt of a message previously sent to the plurality of upstream sources and indicative of an increased ability of the congestion manager to accept packets intended to be forwarded to said final destination "*indications of levels of congestion for a particular destination*" column 13, lines 50-63.

Regarding claim **16**, Peris et al (US 6,728,211) further teaches upon receipt of message from a particular one of the upstream sources acknowledging receipt of a message previously sent to upstream sources "*receiving the control messages*" as disclosed in Fig 3A and indicative of an increased ability of the congestion manager to accept packets intended to be forwarded to a particular final destination, updating the entry in the acknowledgement database corresponding to the combination of particular final destination "*indications of levels of congestion for a particular destination*" column 13, lines 50-63.

Regarding claim **17**, Peris et al (US 6,728,211) further teaches upon receipt of first message (no-congestion information) indicating an increased ability of a particular one of the intermediate destinations to accept packets intended to be forwarded to the final destination associated with particular flow "*conveying no-congestion information*" disclosed in column 13, lines 30-45:

Generating an acknowledgement message acknowledging receipt of the first message and sending the acknowledgement message to the particular intermediate destination "*distributing the flow control information*" column 13, lines 30-45.

Regarding claim 18, Peris et al (US 6,728,211) further teaches maintaining an acknowledgement database "*data structure-700*" disclosed in Fig 7A or column 13, lines 50-63; includes an entry for each combination of upstream source and a final destination "*flow control information*" column 13, lines 50-63; and an indication of whether the upstream source in each combination of upstream source and final destination has acknowledgement receipt of a message previously sent to the plurality of upstream sources and indicative of an increased ability of the congestion manager to accept packets intended to be forwarded to said final destination "*indications of levels of congestion for a particular destination*" column 13, lines 50-63.

Regarding claim 19, Peris et al (US 6,728,211) further teaches upon receipt of message from a particular one of the upstream sources acknowledging receipt of a message previously sent to upstream sources "*receiving the control messages*" as disclosed in Fig 3A and indicative of an increased ability of the congestion manager to accept packets intended to be forwarded to a particular final destination, updating the entry in the acknowledgement database corresponding to the combination of particular final destination "*indications of levels of congestion for a particular destination*" column 13, lines 50-63.

Regarding claim 20, Peris et al (US 6,728,211) further teaches maintaining an acknowledgement database "*data structure-700*" disclosed in Fig 7A or column 13, lines

50-63; includes an entry for each combination of upstream source and a final destination *"flow control information"* column 13, lines 50-63; and an indication of whether the upstream source in each combination of upstream source and final destination has acknowledgement receipt of a message previously sent to the plurality of upstream sources and indicative of an increased ability of the congestion manager to accept packets intended to be forwarded to said final destination *"indications of levels of congestion for a particular destination"* column 13, lines 50-63.

Regarding claim 21, Peris et al (US 6,728,211) further teaches upon receipt of message from a particular one of the upstream sources acknowledging receipt of a message previously sent to upstream sources *"receiving the control messages"* as disclosed in Fig 3A and indicative of an increased ability of the congestion manager to accept packets intended to be forwarded to a particular final destination, updating the entry in the acknowledgement database corresponding to the combination of particular final destination *"indications of levels of congestion for a particular destination"* column 13, lines 50-63.

Regarding claim 22, Peris et al (US 6,728,211) further teaches upon receipt of first message indicating an increased or reduced ability of a particular one of the intermediate destinations to accept packets intended to be forwarded to the final destination associated with a particular flow *"conveying no-congestion or congestion information"* disclosed in column 13, lines 30-45:

Generating an acknowledgement message acknowledging receipt of the first message and sending the acknowledgement message to the particular intermediate destination *"distributing the flow control information"* column 13, lines 30-45.

Regarding claim 23, Peris et al (US 6,728,211) further teaches maintaining an acknowledgement database *"data structure-700"* disclosed in Fig 7A or column 13, lines 50-63; includes an entry for each combination of upstream source and a final destination *"flow control information"* column 13, lines 50-63; and an indication of whether the upstream source in each combination of upstream source and final destination has acknowledgement receipt of a message previously sent to the plurality of upstream sources and indicative of an increased ability of the congestion manager to accept packets intended to be forwarded to said final destination *"indications of levels of congestion for a particular destination"* column 13, lines 50-63.

Regarding claim 24, Peris et al (US 6,728,211) further teaches upon receipt of message from a particular one of the upstream sources acknowledging receipt of a message previously sent to upstream sources *"receiving the control messages"* as disclosed in Fig 3A and indicative of an increased ability of the congestion manager to accept packets intended to be forwarded to a particular final destination, updating the entry in the acknowledgement database corresponding to the combination of particular final destination *"indications of levels of congestion for a particular destination"* column 13, lines 50-63.

Regarding claim 25, Peris et al (US 6,728,211) further teaches wherein congestion manager is implemented in at least one of the intermediate destination *"line card maintains data structure indicating flow control information"* column 4, lines 34-38.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Harper whose telephone number is 571-272-3166. The examiner can normally be reached weekdays from 11:00 AM to 7:00 PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao, can be reached at 571-272-3174. The centralized fax number for the Patent Office is 571-273-8300. For non-official communications, the examiner's personal fax number is 571-273-3166 and the examiner's e-mail address is kevin.harper@uspto.gov.

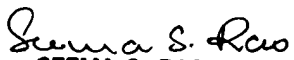
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Kevin C. Harper

January 8, 2006



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